



Senate

General Assembly

File No. 425

February Session, 2006

Substitute Senate Bill No. 635

Senate, April 6, 2006

The Committee on Education reported through SEN. GAFFEY of the 13th Dist., Chairperson of the Committee on the part of the Senate, that the substitute bill ought to pass.

AN ACT CONCERNING MATHEMATICS AND SCIENCE CURRICULA AND PROGRAMS.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 1. Section 10-221a of the general statutes is repealed and the
2 following is substituted in lieu thereof (*Effective July 1, 2006*):

3 (a) For classes graduating from 1988 to 2003, inclusive, no local or
4 regional board of education shall permit any student to graduate from
5 high school or grant a diploma to any student who has not
6 satisfactorily completed a minimum of twenty credits, not fewer than
7 four of which shall be in English, not fewer than three in mathematics,
8 not fewer than three in social studies, not fewer than two in science,
9 not fewer than one in the arts or vocational education and not fewer
10 than one in physical education.

11 (b) [Commencing with classes graduating in 2004] For classes
12 graduating from 2004 to 2010, inclusive, and for each graduating class
13 thereafter, no local or regional board of education shall permit any

14 student to graduate from high school or grant a diploma to any
15 student who has not satisfactorily completed a minimum of twenty
16 credits, not fewer than four of which shall be in English, not fewer than
17 three in mathematics, not fewer than three in social studies, including
18 at least a one-half credit course on civics and American government,
19 not fewer than two in science, not fewer than one in the arts or
20 vocational education and not fewer than one in physical education.

21 (c) Commencing with classes graduating in 2011, and for each
22 graduating class thereafter, no local or regional board of education
23 shall permit any student to graduate from high school or grant a
24 diploma to any student who has not satisfactorily completed a
25 minimum of twenty credits, not fewer than four of which shall be in
26 English, not fewer than three in mathematics, including one credit in
27 algebra, not fewer than three in social studies, including at least a one-
28 half credit course in civics and American government, not fewer than
29 two in science, not fewer than one in the arts or vocational education
30 and not fewer than one in physical education.

31 [(c)] (d) Any student who presents a certificate from a physician
32 stating that, in the opinion of the physician, participation in physical
33 education is medically contraindicated because of the physical
34 condition of such student, shall be excused from the physical
35 education requirement, provided the credit for physical education may
36 be fulfilled by an elective.

37 [(d)] (e) Determination of eligible credits shall be at the discretion of
38 the local or regional board of education, provided the primary focus of
39 the curriculum of eligible credits corresponds directly to the subject
40 matter of the specified course requirements. The local or regional
41 board of education may permit a student to graduate during a period
42 of expulsion pursuant to section 10-233d, if the board determines the
43 student has satisfactorily completed the necessary credits pursuant to
44 this section. The requirements of this section shall apply to any student
45 requiring special education pursuant to section 10-76a, except when
46 the planning and placement team for such student determines the

47 requirement not to be appropriate. For purposes of this section, a
48 credit shall consist of not less than the equivalent of a forty-minute
49 class period for each school day of a school year except for a credit or
50 part of a credit toward high school graduation earned at an institution
51 accredited by the Department of Higher Education or regionally
52 accredited.

53 [(e)] (f) Only courses taken in grades nine through twelve, inclusive,
54 shall satisfy this graduation requirement, except that a local or regional
55 board of education may grant a student credit (1) toward meeting a
56 specified course requirement upon the successful completion in grade
57 seven or eight of any course, the primary focus of which corresponds
58 directly to the subject matter of a specified course requirement in
59 grades nine to twelve, inclusive; or (2) toward meeting the high school
60 graduation requirement upon the successful completion of coursework
61 at an institution accredited by the Department of Higher Education or
62 regionally accredited. One three-credit semester course, or its
63 equivalent, at such an institution shall equal one-half credit for
64 purposes of this section.

65 [(f)] (g) A local or regional board of education may offer one-half
66 credit in community service which, if satisfactorily completed, shall
67 qualify for high school graduation credit pursuant to this section,
68 provided such community service is supervised by a certified school
69 administrator or teacher and consists of not less than fifty hours of
70 actual service that may be performed at times when school is not
71 regularly in session and not less than ten hours of related classroom
72 instruction. For purposes of this section, community service does not
73 include partisan political activities. The State Board of Education shall
74 assist local and regional boards of education in meeting the
75 requirements of this section.

76 [(g)] (h) A local or regional board of education may award a
77 diploma to a veteran of World War II, pursuant to section 27-103, who
78 left high school prior to graduation in order to serve in the armed
79 forces of the United States and did not receive a diploma as a

80 consequence of such service.

81 Sec. 2. Section 10a-72d of the general statutes is repealed and the
82 following is substituted in lieu thereof (*Effective July 1, 2006*):

83 (a) The Board of Trustees for the Community-Technical Colleges
84 shall establish procedures for (1) the development of articulation
85 agreements between the regional community-technical colleges and
86 the regional vocational-technical schools in order to ensure a successful
87 transition to higher education for students attending the regional
88 vocational-technical schools, and (2) the awarding of appropriate
89 college credit for persons enrolled in and registered under the terms of
90 a qualified apprenticeship training program, certified in accordance
91 with regulations adopted by the Labor Commissioner and registered
92 with the Connecticut State Apprenticeship Council established under
93 section 31-22n.

94 (b) The board of trustees shall implement the procedures
95 established pursuant to subsection (a) of this section and shall apply
96 them to students attending a regional vocational-technical school on or
97 after September 1, 2006.

98 Sec. 3. (NEW) (*Effective July 1, 2006*) The Department of Education
99 shall establish, within available appropriations, a high school
100 mathematics and science challenge pilot program, which uses student
101 performance results for mathematics and science on the state-wide
102 tenth grade mastery examination given in accordance with the
103 provisions of section 10-14n of the 2006 supplement to the general
104 statutes, to design and implement mathematics and science curricula
105 for students in the eleventh grade in the public high schools, including
106 regional vocational-technical schools. For purposes of the program, the
107 Commissioner of Education may award grants to local and regional
108 boards of education and regional vocational-technical schools for
109 demonstration projects. Local and regional boards of education and
110 regional vocational-technical schools seeking to participate in the pilot
111 program shall apply to the department at such time and in such
112 manner as the commissioner prescribes. The commissioner shall select

113 a diverse group of participants based on the population, geographic
114 location and economic characteristics of the school district or regional
115 vocational-technical school. Local and regional board of educations
116 and regional vocational-technical schools awarded grants under the
117 program shall use grant funds for expenses for developing and
118 implementing an instructional program in the mathematics and
119 science subject areas targeting students who did not meet or exceed the
120 level of proficiency in mathematics or science on such state-wide tenth
121 grade mastery examination, and conduct an evaluation of the
122 program, including an analysis of student testing performance before
123 and after participation in the program.

124 Sec. 4. (NEW) (*Effective July 1, 2006*) The Department of Education
125 shall establish, within available appropriations, a "Generation Next"
126 pilot program connecting business-sponsored job shadowing
127 experiences to high school students and externship experiences to
128 teachers in the public schools, including the regional vocational-
129 technical schools. The Commissioner of Education, for purposes of the
130 program, may award grants to local and regional boards of education
131 and regional vocational-technical schools for demonstration projects.
132 Boards of education and vocational-technical schools seeking to
133 participate in the pilot program shall apply to the department at such
134 time and in such form as the commissioner prescribes. The
135 commissioner shall select a diverse group of participants based on the
136 population, geographic location and economic characteristics of the
137 school district or school. Local and regional boards of education and
138 regional vocational-technical schools awarded grants under the
139 program shall use grant funds for developing and implementing a
140 coordinated high-school level teacher externship and student job
141 shadowing program in the areas of science or mathematics or with
142 technology intensive businesses in the state.

143 Sec. 5. (NEW) (*Effective July 1, 2006*) The Department of Education
144 shall establish, within available appropriations, a "Future Scholars"
145 pilot matching grant program for public schools participating in
146 externally funded programs that provide supplemental mathematics

147 and science programming and instruction to students in grades eight
 148 to ten, inclusive, who scored above the level of basic and below the
 149 level of proficiency on the mastery examinations given during the
 150 previous year in accordance with the provisions of section 10-14n of
 151 the 2006 supplement to the general statutes. The Commissioner of
 152 Education, for purposes of the program, may award grants to local and
 153 regional boards of education and regional vocational-technical schools
 154 for demonstration projects. Boards of education and vocational-
 155 technical schools seeking to participate in the pilot program shall
 156 apply to the department at such time and in such form as the
 157 commissioner prescribes. The commissioner shall select participants
 158 based on the quality of proposed programs and evidence of
 159 commitment by businesses supporting the project. Local and regional
 160 boards of education and regional vocational-technical schools awarded
 161 grants under the program shall use grant funds for development and
 162 implementation of an interdisciplinary mathematics, science and
 163 technology curriculum, including the establishment and staffing of
 164 mathematics and science laboratories, in middle and high schools that
 165 have demonstrated support and involvement by local or state-wide
 166 mathematics, science or technology intensive businesses in the state.

This act shall take effect as follows and shall amend the following sections:		
Section 1	<i>July 1, 2006</i>	10-221a
Sec. 2	<i>July 1, 2006</i>	10a-72d
Sec. 3	<i>July 1, 2006</i>	New section
Sec. 4	<i>July 1, 2006</i>	New section
Sec. 5	<i>July 1, 2006</i>	New section

ED *Joint Favorable Subst.*

The following fiscal impact statement and bill analysis are prepared for the benefit of members of the General Assembly, solely for the purpose of information, summarization, and explanation, and do not represent the intent of the General Assembly or either House thereof for any purpose:

OFA Fiscal Note

State Impact:

Agency Affected	Fund-Effect	FY 07 \$	FY 08 \$
Education, Dept.	GF - Cost	325,000	325,000
Colleges, Regional Comm.-Tech.	GF - None	None	None

Note: GF=General Fund

Municipal Impact:

Municipalities	Effect	FY 07 \$	FY 08 \$
Local and Regional School Districts	Revenue Gain	250,000	250,000
Local and Regional School Districts	None	None	None

Explanation

The requirement of algebra within the mandated mathematics credits for graduation results in no fiscal impact to the state or local and regional school districts as it goes in to effect beginning with the graduating class of 2011 which allows time to adjust purchases of curriculum materials. Districts replace textbooks and materials on a regular basis and only a change in what is purchased is required not the purchase of materials beyond that currently planned for purchase.

The bill results in a state cost of approximately \$325,000 by initiating three new grant programs within the State Department of Education. Two of the programs are currently funded in the FY 07 budget as passed by the Appropriations Committee, the Future Scholars program at \$125,000 and the "Generation Next" program at \$125,000. No funding was provided for a Math and Science Challenge grant program although a similar program is funded within the Regional Community Technical Colleges at \$410,000. The \$250,000 of funding included within the State Department of Education would be a revenue gain to local and regional school districts. The requirement of

new grant programs would require one new program manager at the State Department of Education at a cost of \$75,000. Funds for a new position and associated fringe benefits are not included in the FY 07 budget as passed by the Appropriations Committee.

The requirements associated with the state technical high schools and community technical colleges and apprenticeship programs can be achieved without additional resources by the state agencies involved.

The Out Years

The annualized ongoing fiscal impact identified above would continue into the future subject to inflation.

OLR Bill Analysis**sSB 635****AN ACT CONCERNING MATHEMATICS AND SCIENCE CURRICULA AND PROGRAMS.****SUMMARY:**

This bill requires students to have at least one credit in algebra in order to graduate from high school, beginning with the 2011 graduating class. It also requires the State Department of Education (SDE) to establish three pilot programs related to math and science: (1) the High School Math and Science Challenge Program, (2) the "Future Scholars" matching grant, and (3) the "Generation Next" pilot program.

The bill requires the community-technical colleges (CTCs) board of trustees to implement procedures to (1) develop agreements between the CTCs and vo-tech schools and (2) award college credit for work done in qualified apprenticeship programs.

EFFECTIVE DATE: July 1, 2006

MATH AND SCIENCE INITIATIVES***Graduation Requirements***

Under current law, students must have at least 20 credits to graduate from high school, with 14 of those in statutorily specified subjects. The bill requires that the mandated three math credits include at least one credit in algebra, beginning with classes graduating in 2011.

Math and Science Challenge Grant Program

The bill requires SDE to establish, within available appropriations, a high school Math and Science Challenge Grant Program. The program must use results from the math and science portion of the 10th grade

mastery test to design and implement math and science curricula for 11th grade public school students. The bill allows the education commissioner to award grants to boards of education and the vo-tech schools for demonstration projects. She prescribes the time and manner of application. She must select a demographically diverse group of participating school districts and vo-tech schools.

Grantees must use the money to develop and implement a math and science program for students who did not perform at least proficiently on the 10th grade test. They must evaluate the program, including an analysis of student testing performance before and after participating in the program.

“Future Scholars” Grant

The bill also requires SDE to establish, within available appropriations, a “Future Scholars” pilot matching grant program. The grant is for public schools participating in externally funded programs that provide supplemental math and science instruction to students in grades eight through 10 who scored above the basic, but below the proficient, level on the mastery test in the previous year. The bill allows the commissioner to award grants to boards of education and the vo-tech schools for demonstration projects. The commissioner prescribes the time and manner of application. She must select participants based on the quality of proposed programs and evidence of commitment by businesses supporting the project.

Boards and vo-tech schools awarded grants under the program must use the money to develop and implement an interdisciplinary math, science, and technology curriculum. The curriculum must include the establishment and staffing of math and science labs in middle and high schools that have demonstrated support from math, science, or technology related businesses in the state.

“Generation Next” Pilot Program

The bill requires SDE to establish, within available appropriations, a “Generation Next” pilot program connecting (1) business-sponsored

job shadowing to high school students and (2) externship experiences to public school teachers. It allows the commissioner to award grants to boards of education and the vo-tech schools for demonstration projects. The commissioner prescribes the time and manner of application. She must select a demographically diverse group of participating school districts and vo-tech schools. Grant recipients must use the funds to develop and implement a coordinated high-school teacher externship and student job shadowing program in the areas of math or science or with technology-related businesses in the state.

VO-TECH SCHOOLS AND COMMUNITY-TECHNICAL COLLEGES

The law requires the CTC board of trustees to set up procedures to (1) develop agreements between community-technical colleges and regional vo-tech schools to assure vo-tech students a successful transition to higher education and (2) award college credit for those enrolled in and registered under an apprentice training program certified by the labor commissioner and registered with the State Apprenticeship Council. The bill requires the board to implement these procedures and apply them to students attending vo-tech schools, beginning on September 1, 2006.

COMMITTEE ACTION

Education Committee

Joint Favorable Substitute

Yea 27 Nay 2 (03/22/2006)